



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,888	12/03/2004	Paul Alexander De Vries	8674.023.US0000	1674
77213	7590	04/20/2009		
Novak Druce + Quigg, LLP 1300 Eye Street, NW, Suite 1000 Suite 1000, West Tower Washington, DC 20005			EXAMINER MCGUTHRY BANKS, TIMA MICHELE	
			ART UNIT	PAPER NUMBER
			1793	
			MAIL DATE	DELIVERY MODE
			04/20/2009	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

## Application No.

10/516,888

## Applicant(s)

DE VRIES ET AL.

## Examiner

TIMA M. MCGUTHRY-BANKS

## Art Unit

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19 and 20 is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6-10,12,13,15 and 16 is/are rejected.
- 7) ☒ Claim(s) 2,5,14,17 and 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

#### ***Allowable Subject Matter***

The indicated allowability of claims 1-19 are is withdrawn in view of the newly discovered references to GB 885,503 and EP 0 696 646 A2. Rejections based on the newly cited references follow.

#### ***Response to Amendment***

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

#### ***Information Disclosure Statement***

The information disclosure statement filed 1/22/2009 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the second non-patent literature entry is the same as on the IDS filed 12/17/2007. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Status of Claims***

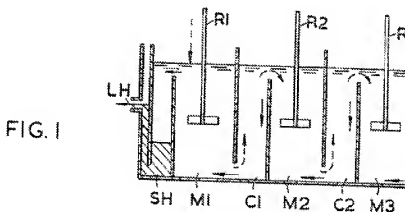
Claims 1-10 and 13-20 are as previously presented and Claim 12 is currently amended.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 3, 4, 6-10, 12, 13, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB 885,503 in view of EP 0 696 646 A2.

GB '503 teaches contacting two components of different densities that may be a liquid with a particulate solid as shown in FIG. 1:



Regarding the limitation that the method is for fractional crystallization, GB '503 does not specifically teach that limitation. However, if the body of a claim fully and intrinsically sets

forth all of the limitations of the claimed invention, and the preamble merely state the intended use of the invention, rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is no significance to claim construction. See MPEP § 2111.02. Regarding introducing the at least partially solidified molten metal, GB '503 teaches using liquids and not specifically molten metal. It would have been obvious to one of ordinary skill in the art at the time the invention was made that the method GB '503 is capable of using molten metal as the treatment liquid, since GB '503 does not limit the apparatus to a particular liquid type. Regarding the crystals, crystals can be considered particulates and thus taught by GB '503.

Regarding Claims 3 and 4, the compartment walls are in the figures. Regarding Claims 6 and 7, See FIG 3. Regarding Claim 8, the walls are adjustable (page 4, lines 65 to 70). Regarding Claim 9, mixers are shown in the figures (see also page 3). Regarding Claim 10, the flow is counter current. Regarding Claim 13, the compartments are shown in pairs. Regarding Claim 15, it would have been obvious to one of ordinary skill in the art at the time the invention was made to expect that the ends of the compartment walls would be near the layer of metal since the liquid travels over the compartments as shown in the figures. Regarding Claim 16, the figures show the walls paired together.

Though GB '503 teaches providing the contacting of two components of different densities that may be two immiscible or partly immiscible liquids or of a liquid with a particulate solid (page 1, lines 9-12), GB '503 does not teach using aluminum as in Claims 1 and 12. EP '646 teaches removing suspended particles from molten metal by passing the molten metal upwardly through a porous media so constructed and arranged such that the movement of the

molten metal there through renders the suspended liquid particles gravity separable. The gravity separable liquid particles rise upwardly or settle downwardly so as to be removable from the molten metal for subsequent removal (abstract and page 2, lines 3 and 4), which reads on counter-current flow. The molten metal includes aluminum (page 3, line 20). It would have been obvious to one of ordinary skill in the art at the time the invention was made that the process of GB '503 could be used to separate aluminum and suspended particles therein, since EP '646 teaches separating aluminum by counter-current flow. Regarding Claim 12, EP '646 teaches Mg (page 3, line 27).

***Allowable Subject Matter***

Claims 2, 5, 14, 17 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 19 and 20 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: regarding claims 2, 17 and 18, GB '503 does not disclose or suggest changing the temperature during the process as claimed. Regarding Claims 5, 14, 19 and 20, GB '503 specifically teaches "counter-current flow without separation into two layers" (page 1, lines 44-46).

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIMA M. MCGUTHRY-BANKS whose telephone number is (571)272-2744. The examiner can normally be reached on M-F 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/George Wyszomierski/  
Primary Examiner  
Art Unit 1793

/T. M. M./  
Examiner, Art Unit 1793  
20 April 2009